

AMATEUR RADIO



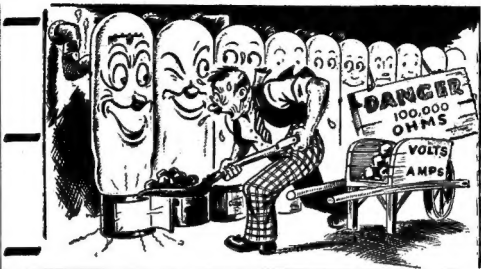
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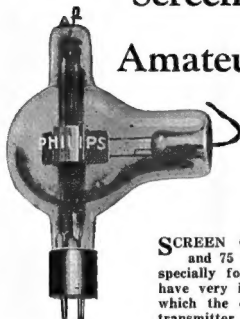
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SCREEN GRID Transmitting Valves for 15 and 75 watts have been designed by Philips specially for use by amateurs. These valves have very important properties, as a result of which the construction and adjustment of the transmitter can be greatly simplified. The control-grid and anode of these valves are screened from each other by a screen-grid, thus reducing anode-control grid capacity to a minimum. When used as H.F. amplifier or frequency multiplier in controlled transmitters there is practically no reaction of the anode circuit on the grid circuit, and self-oscillation is impossible with screening outside the valve. Neutralisation is unnecessary, so it is very easy to alter the wave-length at short notice. These screen-grid valves give greater amplification than triodes under the same conditions.

Table A shows the various electrical properties of the Philips amateur transmitting valves:—

CHARACTERISTICS:

Table A. Type.	Screen Grid Valves	
	QC 05/15.	QB 2/75
Filament Voltage	4.0	10.0
Filament current*	1	3.25
Saturation current*	400	2,000
Anode voltage	400-500	2,000
Screen grid voltage	75-125	300-500
Max. anode dissipation	15	75
Anode dissipation on test	20	100
Max. screen grid dissipation	8	15
Amplification factor*	225	200
Mutual conductance (slope)*	1.4	1.4
Int. resistance*	160,000	350,000
Anode-grid capacity001	.02
Max. diam. of bulb	50	100
Max length	160	210

*Approximate values.

PHILIPS

TRANSMITTING VALVES

AMATEUR RADIO

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1st August, 1935.

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EDITORIAL . .

Reorganisation and Reconstruction

Most of the divisions of the Wireless Institute have now passed through that period of activity known to councils, secretaries and treasurers as "the end of the financial year."

Whilst this is in itself an accomplishment—especially if those concerned have been able to show progress for the year—it also marks the beginning of a new period for reorganisation and reconstruction.

The Victorian Division, together with other sections of the Institute, is contemplating radical changes in the arrangement of the various divisional officers, in order to give the maximum number of real workers a share in the work, as well as to see that no one worker has more responsibility than he can reasonably manage.

We note that South Australia is also doing this very thing in a slightly different way. They are arranging a series of internal improvements, in social, lectures, administration, and student group formation.

It is usually found that the councils of each division seem to contain the best workers of the division, who may perhaps do at least two jobs, and in some cases as many as four. This state of affairs does not generally produce a very large measure of success. It is better, we think, to share the work amongst all those available, and so use and hold the interest of as many as possible, as well as maintain a high standard in each department.

Technical Articles

Some time ago we were told that "Amateur Radio" "didn't contain much technical stuff of any consequence," and, as usual, we set about to reply, "We can only print what the boys send in."

Looking back over these remarks, the Magazine Committee decided to do something about this old question which is ever new, and, with the help of one of our advertisers, who appreciates our efforts and support, we were able to offer last month a very desirable prize for the best technical article published in the September, October and November issues. We are anxious to see that such articles materialise, and would suggest that, if you can't write such an article, perhaps you could approach some scientifically-minded person to help "Amateur Radio" along. We have compiled a list of likely people in Melbourne—University professors, laboratory chiefs and assistants, factory engineers and experimenters—and think that other States might do the same.

You would not be seeking an article for an unknown magazine. "Amateur Radio" is just about two years old now, and does occupy a forward position amongst "ham literature" in Australia.

Remember that oft-repeated statement that "Amateur Radio" is a true reflection of the amateur experimental mind, as all we print finds its source in the "ham" fraternity.

So, if you don't see just what you want in "Amateur Radio," it's up to you to remedy this state of affairs.

B.E.R.U. Representative Resigns

We note that Ray Carter (VK2BE) has given up his B.E.R.U. activities. He held the position for five and a half years, and rendered service to all and sundry not likely to be forgotten.

Such workers are hard to follow, and provide an example to all. He wants to thank especially 3WL and the following sub-representatives:—VK2YC, 3OC, 4GK, 5GR, 7CH, 6FO. VK3EG is now the main Empire link station, and is keeping up the good work. All letters may be addressed to him.

Matching Transmission Lines to Aerials

— PART I. —
(By H. W. BERRY.)

The problem we are going to discuss is how to conduct the energy, which our oscillator is producing, to the aerial system. A method of matching transmission lines, by means of an auxiliary length of line, will be described.

First of all, let us see what happens in a transmission line. If we feed energy into an infinitely long line, it travels forward progressively towards its goal and power will be delivered into the system. If, however, the line is not infinitely long, at some time or other the energy will reach the end. It cannot go forward into space; instead it starts to travel back towards the source, i.e., reflection takes place. But energy is still moving forward in the line, and under these circumstances the two combine to form what we know as "standing waves." In other words, the forward energy will, at certain places, be in the right phase to re-inforce the reflected energy—the two will then add together. At other places the two are in opposing phase and tend to cancel. Thus nodes and antinodes of energy appear along the line.

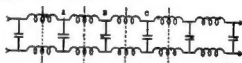
A mechanical example might help to fix this in your mind. If we take a long rope, leave one end free and shake the other, up and down waves appear which are seen to be moving forward continuously. That represents an infinitely long line with "traveling" waves on it. If we fasten the free end and continue the experiment, the waves will appear to be stationary and of much greater amplitude. (To get a good effect, keep the "frequency" of the jerks constant.) That represents a finite line with "standing" waves, due to the reflection from the fixed end.

Now these standing waves are the things we strive for in an aerial system, i.e., under standing wave conditions, energy will be radiated. In a transmission line, however, we abhor them, firstly on account of the radiation losses and resultant distortion of field pattern, if we happen to be feeding a directive aerial; and secondly, because of the serious losses which

occur on the line—dielectric losses and leakage losses at the voltage antinodes and ohmic ($I^2 R$) losses at the current antinodes. If we are going to deliver to the aerial the maximum possible amount of the energy which the transmitter is delivering into the transmission line, the line must be as "loss free" as possible and standing waves cannot be tolerated.

In a Zepp, of course, we have standing waves on the feeders, but we minimise the radiation losses by arranging for the standing waves to be opposite in phase at geometrically opposite points along the feeders. It is seldom that perfect balance is achieved, and in any case, the dielectric and ohmic losses are still present. The Zepp is not a favourite, therefore, where profits have to be made. The DX amateur with low input must also study economy, and a special aerial, correctly fed, is good economy.

Returning to transmission line theory, an infinitely long line may be depicted thus:—



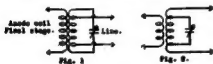
i.e., it possesses distributed capacity and inductance, and therefore presents finite impedance. This impedance is termed "surge" or "characteristic" impedance; it is resistive in character and independent of frequency. Now section C will have the same effect on section B that section B has upon section A, so if we cut the line at A and connect an impedance across it equal to section B, the line behaves exactly as it did before. In other words, we have taken an infinitely long line, cut it into a finite length, and terminated it in an impedance equal to its own characteristic impedance. The line still behaves as an infinitely long line, and energy fed into it will not be reflected.

The characteristic impedance, R_0 , of a pair of parallel wires is equal to $R_0 = 276 \log 10 \frac{2D}{d}$, where D is the spacing between centres of the wires

and d , the diameter (in the same units). For purposes of standardisation and convenience, 600 ohms has been adopted as a suitable value for the characteristic impedance of a transmission line, but there is no reason why you should not choose any other value.

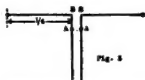
A $\lambda/4$ aerial has a radiation resistance of about 36 ohms, and at its current antinode, reacts as a 36 ohms impedance. A $\lambda/2$ aerial has a radiation resistance of about 98 ohms when $\lambda/2$ above earth, and 60 ohms when $\lambda/4$ above earth, and at its current node reacts as a 6000 ohms impedance, at its current antinode as a 98 ohms falling to 60 ohms impedance, depending on height above earth.

In order to get maximum transfer of energy between any load and any form of supply, the impedance of the load must equal the impedance of the supply. Our transmission line has an impedance of 600 ohms, our aerial, say, 60 ohms, and the tank circuit of the transmitter 10,000 ohms or more. To get decent transfer of energy between transmitter and aerial, therefore, matching must be accomplished at both ends of the transmission line.



At the transmitter end, an auto-transformer is usually used. If, as in our case, a step down ratio is required, the arrangement might be as in Fig. 1. If the reverse is the case Fig. 2 would apply.

At the aerial end, several means are available. Auto-transformers could again be used, or we could use $\lambda/4$ matching lines. The purpose of this article, however, is to explain the "stub" or "trombone" method developed by the Bell Telephone Laboratories.



Suppose we have a quarter wave arm dipole fed by a transmission line, as in Fig. 3. Normally a current antinode would be expected to occur at the points B, and the impedance presented by the aerial would be purely

resistive at these points. Due to various causes, however, the current antinode might occur elsewhere, and then, at B, a reactive impedance would be presented by the aerial and tapping our resistive transmission line would lead to reflection and standing waves. Under these circumstances, a current node or antinode must occur along the line within a $\lambda/4$ of the point B. . . you pause to think, you will see that this must be so. Provided we can find this point, we can ignore the fact that it was supposed to occur at B, and base our matching on the fact that it actually occurs at A.

As the impedance at B is now reactive, it is possible to add a reactance in parallel, which has a canceling effect (i.e., an inductive reactance if B is capacitive and vice versa) and restores the resistive impedance which we desire for matching to the resistive transmission line. It is then only necessary to tap the transmission line on the aerial at a point of similar resistance, and remember, our aerial now extends to the points A, and matching is complete.

An open circuited length of transmission line, of finite length, presents a capacitive impedance, and a short circuited length of line, of finite length, presents an inductive impedance. It is convenient, therefore, to use transmission line for the balancing impedance.

Now the position at which to connect this impedance, and its value, may be obtained mathematically. By means of curves, which will be published later, however, both position and length of added transmission line may be read off at a glance against a figure which represents the ratio of the minimum current to the maximum current in the unbalanced line. A practical method of determining this ratio will be described later.

In the first, third, fifth, etc. $\lambda/4$ from the aerial (assuming a position of minimum current comes first), the aerial impedance presented is capacitive, and therefore an inductive loop would be required in the position determined from the curves. In the second, fourth, etc. $\lambda/4$ the aerial impedance is inductive, and therefore a pair of open-circuited capacitive lines would be required. In other words, in every $\lambda/4$ from the aerial there is a position where matching may be accomplished. If it is not convenient to insert an inductive loop

(Continued on page 11)

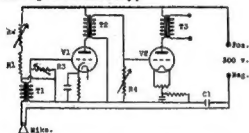
A.N.A.C. Operated Speech and Microphone Amplifier

By VK2ER.

The author became very engrossed some time ago in the delightful pastime of retrenching batteries from the shack.

The receiver constituted no problem, nor did the C.W. section of the transmitter. However, when the keying relay and the microphone came due for consideration the troubles started. The keying relay trouble was dispensed with quite summarily in the manner described in another article. That left the microphone battery. How it went is shown in Figure 1.

A husky rectifier and filter system was built, a few resistors and a couple of alterations to the S.A., and away went the fore rig sans microphone battery.



- R1, R2—Ballast Resistors.
R3 R4—50,000 ohm variable wire wound
C1—2000 mfd. electrolytic or 8mfd. do.
T1—Microphone transformer 70:1.
T2—10:1 transformer.
T3—Output transformer.
V1—227 or similar, V2, 250 or D020.

The Story.

The rectifier filter system consists of a 360-360-v. transformer, a 227 rectifier, a pair of 8 ufd electrolytic condensers, and a 120 M.A. choke of about 30 henries (more or less). This smoothing proved to be quite satisfactory. A torch bulb and holder was inserted in the centre tap lead from the plate transformer. This acts as a fuse, and also once the system is adjusted the glow of the lamp gives an indication that all is well (or not well).

In figure 1 is shown the circuit employed. V1 and V2 are set with correct bias resistors and R2 adjust-

ed so that the total load passing through the primary of T1 is 90 to 100 milliamperes. The microphone, of course, is a good quality solid back in this case a Ericsson type, N7701.

The condenser C is a 2,000 ufd. electrolytic which used to be popular some years ago, before the time of A.C. valves, for use in "A" battery eliminators. Tests showed that an ordinary 8 ufd 500-v. electrolytic condenser did quite a good job here, and its capacity gradually increased with use on the low voltage.

When the assembly was first tried out all that came out of it was an R9 hum and a T9 squeal, together giving a fair idea of some S.E. transmitters on the air.

The feed back was removed by stabilising the flux in the interstage transformers with the variable secondary load resistors R3 and R4. The hum, however, beat the band. Eventually by putting the filaments of V1 and V2 on a separate transformer from that supplying the 227 and the 360-360-v. the trouble disappeared. No shielding, earthing, screening or anything logical or illogical would induce the 227, D020, 227 and 360-v. 360 to feed in harmony off the one transformer. So then the 227 and H.T. feed off one transformer and the 227 and D020 off a separate small filament transformer. And that, gentlemen, is about the whole extent of the Hooey.

COUNTRY 'PHONE TRANSMITTERS.

All country 'phone "hams" on the 200-metre band must apply to the P.M.G.'s. Department and VK3TH for permit and allocation on or before August 14th. This is occasioned by the new wavelengths for National and "B" Class stations, to operate from September 1, 1935.

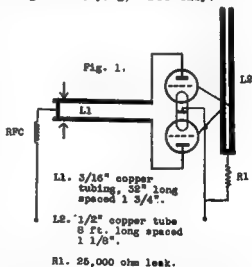
A Complete 56 M.C. Transmitter and Receiver

By VK8ML, Technical Editor.

There is not a shadow of doubt that 56 mc working has come to stay in VK. The attraction of this band has lately drawn many local stations down there, and it is very obvious that we shall soon have the old trouble of QRM with us just as we have on 7 mc. The utter simplicity of the transmitter and receiver needed on this frequency makes it so very easy to get on the air. The thrills received in working duplex phone, without any fear of worrying the neighbouring BCL, are an incentive to any man to try this band out.

However, one must bear in mind that with the simple gear needed the question of QRM is soon to become acute, and once more our troubles commence. At the same time it is possible to build a station with a high degree of stability in both the receiver and transmitter with as much, or even less gear than that used in the layout described up to six months or so ago. The employment of resonant grid tubes and linear plate tubes has greatly simplified transmitter construction, with the added advantage of providing quite good stability. At the writer's station a transmitter using these tubes gives a signal that hardly creeps even when listening to an overtone of it in a SS receiver on 7mc. Under high percentages of modulation this is a decided advantage, both from the point of view of power output and general stability. Thus, it would be as well for anyone desiring to get the 5 metre bug to start off with a somewhat modern layout which gives both power and results. We might as well look at the QRM problem early in the picture and help to stave it away for a long time to come. Even the transmitter about to be described is by no means the last word in 56 mc oscillators, and much experimental ground can be covered with EC and CC transmitters. Now that new

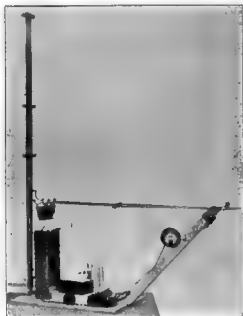
tubes are being built for this kind of work the problem of doubling and amplifying is not so big. We therefore earnestly suggest that before a newcomer gets on this band that he gives plenty of thought to the design of his gear, with a view to putting out the very best signal possible. The main problem of many seems to be "where is the band?" This question was asked by the writer himself just as the transmitter was completed. Fortunately, a few hours' experience proved that one could hardly miss the band when using the resonant grid tubes which are cut to quarter wave of the working frequency. When the plate wires are brought into resonance with the grid circuit one must hit the band. That eliminates bug-bear number one. To locate the spot on the receiver is easier still. One has only to fire up the transmitter and tune in the signal. That is, as Napoleon once thought of saying, "Too easy!"



Figures 1 and 2 show the ultra simple type of transmitter that gives decent stability. It requires two tubes, four lengths of copper tubing, one grid leak and one RFC, as well as, of course, a power supply. The transmitter shown employs two

Philips TCO3/5 tubes which are ideal for this kind of layout, and may be used for portable work because of the low filament consumption—4 volts and .25 amp. The "works" hardly need describing because there is so little to it. Constructional and tuning up details are as follows:—

The grid high "Q" tank consists of two half-inch diameter copper tubes 4ft. long, and spaced 1 1/8th inches, centre to centre. A couple



of insulated spreaders may be employed to keep the separation constant throughout the entire length of the tubes. These may be made of any high-grade insulating material. One end of the "trombone" is shorted and connected to the centre tap of the filament. The grids are hooked on about one-third of the way up from the shorted end by means of some kind of firmly gripping clip. A couple of voltage divider clips were knocked into shape for this transmitter. The plate circuit includes two 3/16in. copper tubes 32 inches long and spaced 1 1/2in., again using insulated spreaders. The open ends are screwed on to the plate terminals and the other end shorted by means of a sliding contact. The DC supply is fed in at the centre of this bridge via an R.F.C. Experimental work has not been completed on the actual gauge and spacing of these

plate tubes for maximum results, but the measurements given here produce a tank circuit that actually works. When the grid leak has been connected and the filament anode power switched on the tuning is accomplished by sliding the plate shorting bridge back and forth until resonance is indicated by the dip in plate mills. The grid clips are then varied up and down until maximum power is obtained with greatest stability. It will be found that as the grid clips are moved down towards the shorted end that the stability falls away. The adjustment does not seem very critical; within an inch or two of the correct setting makes no appreciable difference. Variation of frequency is best accomplished by sliding the plate shorting bridge back and forth until the desired frequency is obtained. The tuning is rather broad either side of resonance. So much for the transmitter.

Receiver.

Figs. 3 and 4 illustrate the conventional tube detector and one audio type receiver. With the exception of the R.F.C. in the cathode lead of the detector the remainder of the circuit is identical with those we have been building for years. Regeneration is obtained by means of the R.F.C. in the cathode circuit which offers an impedance to both grid and plate circuits in such a manner as to produce oscillation. This R.F.C. is not critical in the number of turns required. The greater the number used the lower the frequency the set will oscillate at of course. Such a receiver may be made to act as an ordinary regenerative receiver which goes in and out of oscillation so quietly that it is hard to tell when it is firing. When further volts are added to the screen grid of the detector we obtain the familiar rushing noise which indicates super-regeneration. Thus, by varying the potentiometer in the S.G. supply lead we may obtain a non-oscillating, oscillating and super-regeneration condition at will. All three have their particular uses and provide a great control for the operator. The audio end of the affair may be made to suit anybody's wishes. The 77 was employed in this receiver because, like the 76, it is a 6.3 volt filament tube and makes

it handy for portable use. The total anode current drain is about 5 mills when 135 volts are used. A penthode would be advantageous in the audio socket, such as a 42 tube, etc., but such gain thereby resulting is not really required.

To discuss the remainder of the circuit would be waste of space. However, in order to make certain that the receiver will function first go it would be as well to adhere closely to the values of the components here recommended. Variations can be made later. With the three plate condenser the band covers 110 degrees of the dial. Less band spread would be valueless because of the broad tuning effect of a super-regenerative receiver.

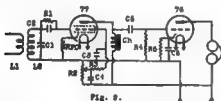
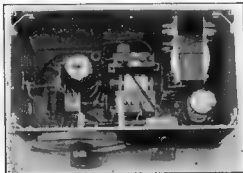


Fig. 5.

- L1—4 turns 16 gauge wire, $\frac{1}{16}$ in. diam.
- L2—6 turns
- C1—3 plate variable condenser.
- C2—0.0001 mfd. grid condenser.
- C3—0.01 mfd. by-pass condenser.
- C4—1 mfd.
- C5—0.5 mfd. coupling condenser.
- C6—4-8 mfd. paper condenser.
- R1—1 meg leak. R2, 100,000 ohm pot.
- R3—500 ohm 1 watt. R4, 0.5 meg leak
- R5—1500 ohm cathode resistor.
- FRC—50 turns 32 D.S.C. 3/16 in. former

Aerials.

High frequency aerials have been described at length in past issues of Amateur Radio, and any intending 56 mc ham is referred to those for October and November, 1934, for some very valuable dope on arrays, etc. In order to get things going



a simple dipole strung vertically as high in the air as possible will give a pretty fair range, even with 10-20

watts input. Copper tubing or 3/20 copper wire may be employed. The radiator length can be 8ft. with a break in the centre of 1-2 inches. Twisted 16 guage house wiring flex of any length will serve as the transmission line. The feeder end can very conveniently be hooked on to the plate tuning tubes at a distance from the bridged end that gives the greatest power output.

Modulation.

No system of modulation will be given here as it can well be left to the ham himself to decide on what to use. The transmitter outlined here is being modulated in the grid circuit without any speech amplifier. This is certainly crude, but serviceable.

Dope Wanted.

We would be very grateful to receive any fresh data on anything new in the 5 metre world, and at the same time be very happy to help any ham in difficulties whenever we can. Write the U.H.F. Section manager, and let him know what's doing in your district.

(Continued from page 7)

at a certain point, we can come back into the next $\frac{1}{4}$ (not $\frac{1}{2}$ further back) and insert capacitive lines. Which position we chose will depend on circumstances, but preferably the position nearest the aerial, as standing waves will occur on the system, from the tips of the aerials to the matching point, and, as pointed out, these are undesirable. However, in the case of a high aerial, we may not be able to get up to the centre to affix the matching device, and so it might be better to choose the next position nearer the ground.

Ron Jardine, VK3PR, writing from his new QRA at "Dunloddon," Old Korumburra road, Leongatha, Vic., states that he expects to get on the air with QRP during the next two months, and mentions that he will be pleased to see any of the gang who pass that way.

The VK/ZL International DX Contest

(By VK3ML, Contest Manager.)

It does not seem like nearly a year since the staging of that successful Centenary contest in October last, but in a month's time it will be so.

You were promised another contest this year, and you are surely going to have it. If the demands of the VK hams for a repeat were not sufficient, the overseas stations certainly made up for them!

In October a large combined contest will be staged. The N.R.A.R.T. has accepted wholeheartedly our invitation to join in the fun and improve the conditions in many ways. Thus the foreign stations will have 12 Districts to work now, four in N.Z. and nine in Australia. Both countries will act as though they are part of each other; that is, they are both on exactly the same footing. Neither will compete against the other, as each will have its own winner and placed stations.

A careful study of the rules should be made and thoroughly absorbed. Comparing these rules with those of October, 1934, we notice:—

Rule 4.

The times of operating are arranged so that no one will feel any physical strain from over-operating during the four week-ends. The periods will permit DX working with W and Europe, as well as other places, either on the second or first night as conditions permit.

Rule 8.

An exchange of serial numbers will be made once more this year. For the newcomer to contests the number is arrived at in this way:—Each participating station in VK/ZL and all other countries allots himself a number consisting of three figures, say 456. The complete serial must contain six figures, so he adds three noughts for his first contact, making the number now 456,000. On handing this number to the foreign station a receipt is given in the usual manner, and a similar number is handed back in return. For example, 222,879 might be received. Now, the first three figures of the received number, 222, are to take the place of the 000 in the original number, making the next serial num-

ber to be transmitted 456,222, which will be handed to the next station contacted. Thus the exchange goes on, always crossing off the last three of your number transmitted and inserting the first three figures of the number just received in their stead. For example, VK6FO gives HC1FG 119,752 and receives 242,171 in return. VK6FO now alters his next number to 119,242, which he might send to ZSiH. No contact is complete unless both stations have exchanged a serial number.

Rule 13.

We mean it, too! If you do not want to be disqualified you must have a note nothing less than T8.

Rule 14.

This should encourage 28 mc, especially since working W's is very easy just now.

Awards.

The awards this year will take the form of highly attractive certificates. Both ZL and VK have had an interest in the design and believe us when we say they are a work of art. The winner of each State in VK will be entitled to an award.

Full overseas publicity has been given to the contest, and the world expects to meet a host of VK stations this year. Everything is set now, and we only have to wait for 1700 hours G.M.T. on 5/10/35.

RULES AND CONDITIONS.

1. There shall be two contests:—

(a) Transmitting—(i) Open Section, where full licence power may be used; (ii) Handicap Section: The maximum power allowed for claims under this section is 50 watts.

(b) Receiving.

2. The Wireless Institute of Australia Contest Committee shall be the sole adjudicators, and their rulings will be binding in the case of dispute.

3. The nature of the contest requires the world to contact ZL and VK.

4. The contest is to be held from 1700 GMT, Saturday, October 5th, till 1700 GMT, Sunday, October 6th, 1935, and will be continued over the same

period on each of the following three week-ends. The dates of the other week-ends are October 12-13, October 19-20, and October 26-27, 1935.

5. The contest is open to all licensed transmitting amateurs and receiving stations in any part of the world. Unlicensed ship and expedition stations are not permitted to enter the contest. Financial members of the W.I.A. and its affiliated societies and members of the N.Z.A.R.T. only will be eligible for awards in VK and ZL.

6. Only one licensed operator is permitted to operate any one station under the owner's call sign. Should two or more operators operate any particular station, each will be considered a competitor, and must enter under his own call sign and submit, in his log, the contacts established by him. This debars persons from entering who have not a ham licence.

7. Each entry must be signed by each competitor as a declaration of the above statement.

8. Each participant will assign himself a serial number of three figures as detailed in the contest description. When two or more operators work the one station each will assign himself a separate number.

9. All amateur frequency bands may be used.

10. Only one contact with a specific station on each of the bands during each week-end will be permitted.

11. Contacts may be repeated on each of the succeeding week-ends with the same stations in accordance with rule 10.

12. Each contact must be accompanied with an exchange of serial numbers and signal strength reports, including readability, strength and tone.

13. Highly Important. — No station will be credited with a contact in a case where the tone report is given as being less than T8.

14. Scoring. — One point will be allowed for every contact completed with an exchange of serial numbers and signal reports. A special bonus of 500 points will be given for 28mc contacts; this is to be added on to the final score after multiplying as in rule 15. Handicap section entrants will divide score obtained by power input to P.A. (in watts).

15. Australian and New Zealand stations will multiply their total score by the number of countries worked, and

the stations outside VK and ZL by the number of Districts worked in both countries, there being 12 in all—VK2, 3, 4, 5, 6, 7, 8, 9, ZL1, 2, 3 and 4.

16. No prior entry need be made for this contest, but each contestant is to submit a log at the conclusion of the test showing date, time (in GMT), band, station worked, in and out serial numbers, in and out signal reports and points claimed for each QSO.

17. Entries from VK stations must reach the W.I.A., 191 Queen Street, Melbourne, C1, not later than December 1st, 1935, and the foreign logs by no later than December 31st, 1935. ZL entries must reach the headquarters of the N.Z.A.R.T., Box 489, G.P.O., Wellington, before November 25th, 1935.

18. Awards.—Attractive certificates will be awarded to the station returning the highest total in each country, to the highest scorers in each of the British Isles, and to the winners of each State of U.S.A., Canada, Australia and New Zealand. There will be no world winner.

19. Foreign stations should call CQ VK/ZL, and the VK and ZL stations, CQ DX TEST.

VK/ZL INTERNATIONAL DX CONTEST (RECEIVING).

1. The rules for the receiving contest are the same as for the transmitting contest, but is open to members of any Short-wave Listeners' Society in the world; but only to members of the N.Z.A.R.T. in New Zealand. No transmitting station is allowed to compete in the receiving contest too.

2. Only one operator is permitted to operate only one receiver.

3. The dates, scoring of points and logging of stations once on each band per week-end are subject to the same rules as for the transmitting contest.

4. To count for points, the call sign of the station being called, and the strength and tone of the calling station, together with the serial number and signal strength report sent by the calling station, must be entered on the log.

5. The above items must be filled in before points can be claimed; that is, it is not sufficient to log a station calling CQ or TEST. Verification of reception must be made in accordance with the conditions in rule 3 above.

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1935 W.I.A. Fisk Trophy

The six monthly contests for the Fisk trophy will be renewed when at the end of August the fourth contest will be run. The Fisk trophy originally donated by Mr. Fisk, of A.W.A., is the subject of six monthly contests between the various State Divisions of the Wireless Institute of Australia.

The forthcoming contest is of an interstate contact nature, with an interchange of cypher with each Q.S.O. A system of bonuses has been arranged which should make the contest more interesting.

The scoring may be a trifle complicated, so a formula has been arranged which should clear up any misunderstanding.

The grand total score

$$= (A \times B) (50c + 20d + 20e + 30f + 100g)$$

Where A = Number of Contacts.

B = Number of States worked.

C = Number of States Contacted on 160MX.

D = Number of States Contacted on 80MX.

E = Number of States Contacted on 40MX.

F = Number of States Contacted on 20MX.

G = Number of States Contacted on 10MX.

The above formula will give the score claimed by any station in the contest.

Rules are as follow:—

No. 1.—The contest is open to all licensed amateurs, but only members of the Wireless Institute are eligible for either prizes or point score in the Fisk trophy.

No. 2.—The times of the contest are as follow:—From 1201 Eastern standard time, Saturday, 31st August, till 235g E.S.T., Sunday, 1st September, and again from 1201 E.S.T., Saturday, 7th September, till 235g E.S.T., Sunday, 8th September.

No. 3.—The test is of a contact nature, and with each contact a 10-letter cypher must be exchanged before a point is scored.

No. 4.—Stations with which an entrant can work are stations in Australia and New Guinea outside the

competitor's own State. When such a station is contacted, and cypher exchanged, one point is scored; no exchange no points scored.

No. 5.—Any station can be contacted once on each band each week.

No. 6.—States are as follow:—VK2, VK3, VK4, VK5, VK6, VK7 and VK8 and 9 combined.

No. 7.—Licensed power must not be exceeded, and infringements of the P.M.G.'s regulations may mean disqualification.

No. 8.—One point is scored for each cypher exchanged. The total points are then multiplied by the number of States worked as defined in rule 6.

No. 9.—Bonuses will be added to the score after multiplying (rule 8). The bonuses are as follow:—

Contacts on 160MX—50 points for each State worked.

Contacts on 80MX—20 points for each State worked.

Contacts on 40MX—20 points for each State worked.

Contacts on 20MX—30 points for each State worked.

Contacts on 10MX—100 points for each State worked.

The sum of the bonuses, plus those points scored as in rule 8, will constitute the grand total score.

No. 10.—The cypher to be exchanged consists of 10 letters, the first five being chosen by the entrant, and are to be used as his identifying letters throughout the contest. The remaining five letters are to be the first five letters of the last station contacted. The initial cypher should consist of the five letters of the originating station, plus five "A's," i.e., XYZABAAAAA.

No. 11.—All logs must reach the Federal Executive, Box 2127L, G.P.O., Sydney, by 30th September. The logs must contain (a) time, date and call-sign of each station worked, (b) cypher sent and received at each contact, (c) points claimed, contact points and bonus points.

No. 12.—The Fisk trophy will be awarded to W.I.A. State Division whose points total of the leading three

(Continued on Page 27)

Operating and Experimental Section

28 and 56 MC. Section

(By 3JJ.)

Reports to hand from U.S.A. indicate that during June they experienced 28 mc. conditions similar to those existing in VK and ZL during December last. Contacts over relatively short distances, 700 to 1000 miles, became very easy and numerous; but transcontinental and DX work declined. Contrary to expectations, very few contacts have been made between W and Europe. Several W's have worked ON4AU, but apparently the only other QSO was between W1AVV and EI8B, who is testing regularly on 28770 kc. W6JV was QSO LU1EP, whose frequency is 28010 kc.

Conditions in VK have fallen off completely now, and VK2EP is the only one who is still able to hear and work DX. His contacts with U.S.A. have not been as numerous as they were formerly, and signal strength is much lower. One bright feature was in a report that VK3EG heard ON4AU at 1 a.m. towards the end of June, but it is not known yet whether it was a fundamental or not. Probably the most likely times for Europe during the coming months will be between 0700 and 1200 G.M.T. (1700 to 1000 V.S.T.). European societies have been requested to advise their 28 mc. stations to keep a special watch for our signals during their mornings, particularly on Sundays.

The following is contained in a letter from W9FM:—"We need a few low power transmitters on 28 mc. running continuously, if possible, and using some simple automatic keying. Then we could all log the time that we begin to hear the signal, and when it goes out. This gives the threshold times and distances for which the band is open. Using several such signals and a number of observers, we could get a much clearer idea of the usefulness of the ten metre band. W5BD last year could hear NY1AB's second harmonic nearly every day around 4 p.m. R.C.A. several years ago noticed that the band was much less erratic in the north-south direc-

tion. An automatic keying device can be made by running a metal disc on a phonograph, with triangles of paper pasted so as to lift a contact from the disc to form the characters. 'VV de —' would be enough. A small tube self excited or otherwise would suffice. Little or no care may be necessary. A frequency as low as possible in the band would probably be best at first."

If anyone can see their way clear to co-operate on the above lines, please get in touch with a representative of this section, either 2YC, 3JJ or 6SA.

Now that 56 mc. beam antennas are in general use in U.S.A., and the signals can be concentrated in one direction, they are finding that a certain amount of bending takes place, due to the positions and heat of various layers of air over the path of the signal. Signals are usually stronger when a layer of moist warm air is adjacently above a layer of dry cold air. With the changeable weather in Victoria conditions should be ideal for experimental work in this direction. There is a slight increase in 56 mc. work locally, but no success has yet been obtained with beam antennas.

VK6SA is putting up a beam antenna for 56mc. to attempt getting signals through to VK6LR and VK6FT, 60 miles away, who are rigging up some gear. 6CA and 6KZ may also be active on this band shortly.

At times there occurs to a ham ideas on the technical side which appear insignificant to him, but would no doubt be appreciated by others. If you have anything "up your sleeve" concerning ultra high frequency work or gear, which has saved time and expense, or results in an improvement, please send it in for publication in these notes.

28 MC. WARMING UP AGAIN!

A telegram from 2YC states that VK2EP scored 840 points in the International 28 mc. contest during the first half of July. Looks as though this band will be in full swing again in a week or two.

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Federal Executive Notes

THE 1935 W.I.A. FISK TROPHY.

It is hoped that the introduction of a bonus in the coming Fisk trophy contest will stimulate interest in interstate QSO's on all bands, and particularly on the 160 metre and 10 metre bands.

Full details are printed elsewhere in this issue, and all interested are referred to these rules for further information.

The system of scoring, while appearing at first glance a trifle complicated, is really quite simple, and will, we feel sure, give satisfaction to all.

It is suggested that entrants call CQ FISK instead of the usual CQ TEST. This should enable participating hams to be easily identified.

New B.E.R.U. Representative Approved by Federal Executive.

Following on the resignation of Ray Carter, VK2HC, and the nomination of VK3EG by him to fill the vacancy, the Federal Executive approved of the nomination, and the B.E.R.U. officially appointed VK3EG as the Australian representative of the B.E.R.U.

The Federal Executive wishes to convey to VK3EG their congratulations on this appointment, and they feel sure that in him the B.E.R.U. have a very industrious worker.

The Executive wishes to convey to Ray Carter its thanks for the splendid manner in which he has helped amateur radio along in Australia.

W.A.C. Certificates.

VK2QN and VK4JB are the only applications for this coveted certificate, and both have been approved.

Applicants are reminded again that they must be members of their local Division of the W.I.A., and that the cards must be forwarded to this local Division, who will in turn forward the cards to Federal Headquarters, together with a statement as to the financial position of the applicant with the said Division.

Federal Convention, 1935

The date of the next Federal Convention has been tentatively fixed as around the 26th January, 1936. Further details and confirmation of the dates will be announced in the near future.

Federal and Victorian Q.S.L. Bureau



Between July 25th and August 24th the Auxiliary Schooner "John Williams V.," will transmit telephony tests with VP3AP. The tests will take place at 2000 GMT daily except when the schooner is in harbour. The frequency used by the schooner, whose call sign is MPSZ, is 6250 kc. Amateurs and listeners hearing these tests are requested to Qsl via this Bureau.

Cards are on hand for the following at the Bureau, 23 Landale St., Box Hill, Vic.:—VK3BK, BS, BX, CA, CW, DS, EG, EQ, ES, EW, ER, EL, ET, FB, FC, GB, GW, GV, HE, HH, HR, JK, JL, JV, JX, KI, KO, KY, LE, LY, NA, NG, NM, NW, OD, OL, PC, PW, QP, RZ, SP, TK, TY, UJ, WN, WX, WJ, WP, WC, XK, XU, YR, ZB, ZJ, ZK, ZL, ZR, ZW. Cards will be promptly despatched on receipt of a stamped envelope.

A large number of unclaimed cards took their last ride to the incinerator during July, and the rule of this Bureau to retain cards for six months only will continue to be observed.

R. E. JONES, VK3RJ,
Federal Qsl Manager.

(Continued from page 13)

6. VK and ZL receiving stations cannot log any VK or ZL stations—only foreign stations. Foreign stations will enter up VK and ZL stations heard only.

7. The awards for the receiving contest will be similar for the winners in the transmitting test.

8. Receiving logs are to be similar to transmitting logs.

Divisional Notes

N.S.W. Division

NOTES FROM HEADQUARTERS.

By VK2HZ.

The terms of affiliation with Radio Clubs have been receiving a lot of discussion. A special sub-committee has been investigating the position, and the result should be a more amiable relationship between the State body and the various clubs.

The Council of the W.I.A. (New South Wales Division) are extremely sorry to hear of J. Marsland's retirement from the secretaryship of this magazine, as they fully appreciated his sterling efforts in the running of the Institute's official organ.

A field day on 56 m.c. has been arranged for the 18th August at Wyong, and it should serve to show the U.H.F. gang the phases of field operation. The field day will comprise a combined Newcastle and Sydney effort, and, although possibly the attendance will not reach that of the more conventional D.F. hunts, it should prove of value.

The lecturer at the July monthly meeting of the W.I.A. was Mr. J. O'Dem (VK2FQ), who covered ably the various systems of modulation, and the lecture was deemed a success.

A questionnaire has been forwarded to all some officers regarding the position in the country, and also reorganisation of the running of country membership.

A complete re-shuffling of some of the activities of the W.I.A. has been contemplated, and a system of handling WX reports is sought. Standard frequency transmissions and a group system are among the things that will receive earnest consideration in the near future.

Conditions on 28 m.c. in New South Wales have again made a turn for the better, and 2LZ and, of course, 2EF have worked Americans, and JNJ and XOB's harmonics are audible up till 7.30 p.m., Sydney time.

NORTH SHORE ZONE NOTES.

By VK2VQ.

The past month has not brought about any startling change in conditions; rather have the bands settled down to the usual work. 28 m.c. has failed to keep going, and now only harmonics from 14 m.c. are heard. On the latter bands, low-power stations are taking advantage of conditions and making many DX contacts. 7 m.c. has brightened considerably, and from 4 p.m. to midnight the band is literally packed with Yanks. Apart from K6, VE, KA, and an occasional X, the usual DX is missing. At this time last year VU, US and FB signals came through consistently, but so far they have not been heard. In another two or three months the Europeans should be coming through, and that is something to look forward to. On 80 m.x. the usual zone stations are heard, with 2L signals coming in like locals. For the Ham who

reports it as being FB.

likes rag chewing and bull throwing, 80 m.x. certainly is the band. Scouting around the lads, we heard of 2DR's visit to VK5 and the enjoyable time he spent with 5FM. Don was the only passenger who didn't feed the fish when his steamer ran into a cyclone. Oh, yeah! Hi! 2AE unusually quiet. Dave has been playing around with self-excited, so maybe I should tune to 30 m.x. to hear him. Hi! Bill 28V is grinding out canned music from his new QRA, in Roseville. Keep the feeders off the roof, OM; they work better that way. 2HG still pounding away and working more Yanks than he knows what to do with. Is thinking of increasing the jolts on his KV-218. 2LA whacks in and has a T9 signal, but many and varied key thumps. Down in the wilds of Lane Cove 2VM is still on sked with 3ET. His YL will be in Sydney from VM shortly, so maybe we won't hear much of Keith. Hi! 2VG and 2HA continue their rag-chews on 40 m.x., though Rex (2VG) is not on very often. 2VP has the band to himself these days, and makes the most of his opportunity with a nice T9 sig. And now, going to Crows Nest, we find Roy (2HY) too busy for Ham radio, but still a keen business man, as he bought a 210 from 2LZ for 2/-. Hi! Con. thought it was a dud, but 2HY found differently, and so the old Con. mooches round with a long face. 2WW has installed MOPA, and, believe me, you can't tell the sig. from crystal. Crows Nest should have a few more Hams shortly, when all the various second ops. sit for the exam. Good luck, OM's! 2HZ seems to have settled on a really decent location, and Bill's first four contacts were with DX. It's still hard to believe that he is an old married man; but guess that won't keep him from radio. Watch his smoke. Gang! Now that his new receiver is perking so well, 288 is planning a new QRO xtal outfit. Bob reckons that 150 (?) watts will do him. Ho! You should hear his celebrated loop fone; it puts 2KY to shame. Hi! Here at 2VQ the bu- is biting, and a comeback is indicated with 4-stage xtal and MR T250 final, with 3,500 volts. Hi! QRP fone will be used for the benefit of the YL, and to chew with 288, 2HG and PV and the boys. This month we have to welcome a new Ham - VK2VN - who operates from 96 Cabramatta-road, Mosman. A self-excited outfit is being used as a start, but xtal will shortly take its place. Good hunting, Norry. 2JF continues his good work, and still the same high quality fone. You wouldn't think 2YC, after running a QSL Bureau, would have much time for family and radio, but he does, and now is busy receiving congrats. on the addition of another junior op. Hi! FB, Jim, ob, and cheerio from the gang. In McMahon's Point, 2TD is doing fine work on fone. Norm. will be remembered as 2TB and 3RB; a real old-timer, with a bug biting as hard as ever. Jim (2AG) has a new super, and

And now for Mosman! Not much doing there, 2PV being the only consistent Ham, and that's not saying much, as Pete is QRL studies. 2PV recently worked a few more Yanks, and now needs a size larger hat. Pete brought his gear along to my shack one night and worked 28S on loop fone without an antenna. Hi! Spends a lot of time on the tennis courts, and is a hot number, believe you me! Ian (2XC) very quiet; have no news of him and can't think of any suitable lies, so will leave him in peace this month. Hi! And what's happened to 2FM? Don't tell me the BCL's have got you bluffed, Alec! Let's hear from you, old son. 2HI is still in this vale of tears; so far his mobike is holding up, and you may keep your floral tributes until a later date. Hi! Fred is rather keen on dancing, and often drags 2VQ and VL into the party. Hi! The Manly gang are well in the limelight, but still the same old signs. 2DA, 2HF and BS Harry (2DA) being rather busy with W.I.A. work to spend much time on the air.

Well, gang, that's the lowdown for this month—not much, I admit—but a fortnight of 'flu is my excuse.

—73.

ZONE 8 NOTES.

By VK2OJ.

Now that the Albury gang are all active again, QRM is very severe at times.

2QE heard testing fone on 3.5 m.x., and it sounded fb, but did not CQ. 2EU is a newcomer with T9, QRI on 7 m.x. and Q.R.P. Antenna is SW fed Hertz, fed by MOPA.

2YI at new QRA, and getting fb. results, with end fed full wave antenna, which is only 15 feet high and has many bends. End feeders are popular here, being used by 2QE, 2YI, 2OJ, and results in all cases have been good. 3EG tried "V" Beam on 14 m.x., and says it is the goods. Thinks also an improvement on 7 m.x. 14 m.x. not so good just now; likewise 7 m.x. Plenty fone on 3.5 m.x., but no W's coming through, like previous winters. 2IG, on 7 m.x., quite often, and getting plenty of QSO's with "Doublet" antenna, and PP TNT. 2CP here again for a couple of weeks, relieving at "B" Class 2AY.

Well, plenty of building to do here, so must QRT.

73's.

LAKEMBA RADIO CLUB.

(Affiliated with the W.I.A.)

Since the publication of last month's notes, the club has moved to new and larger premises, situated at 334 Canterbury-road, Hurlstone Park. The new location is very central, being well served with tram, train and bus transport services.

The total club membership is approximately 50, including the following transmitters:—VK8, 2LR, 2AS, *2CY, 2DL, *2EH, 2ED, 2EV, *2FD, 2FG, 2GZ, *2HE, *2HV, *2IC, 2IO, *2JT, 2KS, *2NJ, 2OD, 2OW, *2PX, *2QP, 2QX, *2SX, 2TG, 2VK, 2VY, *2WF, 2XD, 2XM, 2XW, 2XZ (*denotes members married).

From the above it can be seen that club interest is by no means confined to the younger and single members. Speak-

ing of enthusiasm probably our most enthusiastic non-transmitting member is Frank ("Bluey") Balmave, who, in order to attend meetings, drives 12 miles in an international truck, through mud and over paddocks, from way out beyond East Hills. The good old truck, with "Bluey" at the wheel, performed excellent work in moving the club gear to its new premises.

The 5 m.x. group are still conducting very interesting experiments, and some are thinking of trying 2½ m.x. The writer recently QSoed 2XM through 2OD's portable gear, and was astounded at the excellent quality of 2XM's 5 m.x. telephony. Mr. George Brown is displaying a great interest in Morse practice lately. A recent visit to the club rooms revealed Mr. Brown giving code practice to T9. YL! While on the subject of YLs, 2XZ, for the past six months, has been preparing a YL for the AORC Exam. We trust that his efforts will have been successful, and await with interest the results of the last examination. We do not hear very much from 2NJ since taking up married life. However, let us hope that the novelty will soon wear off. 2EH recently ruined a perfectly good crystal by grinding it out of the band. He expressed his opinion on crystal grinding in no uncertain terms. 2HE takes up radio by summer and football by winter. The football club meeting night coincides with the radio club night; consequently we only see Bert every six months. Our latest new members are 2VK and 2OW. DX station will probably mix up 2VK's call sign, while others may mistake 2OW for a stern old matron. However, both are very nice chaps, so never judge a Ham by his call.

All enquiries on club matters will receive the attention of the hon. secretary, if forwarded to the above address.

WESTERN SUBURBS NOTES.

By ZO2MY.

Old Hams who saw active service during the war will learn with regret of the death of Colonel McCall, better known as "The Old Man," who was in command of the Anzac Signal Corps in Palestine. During his excursions on active operations he always made it a point to visit the wireless outfits, and would enter wholeheartedly into technical arguments, which as often as not would leave the station operators stranded technically. Vale! A gallant old gentleman!

2BB, of Eastwood, putting out some nice phone on 40 m.x. Uses 3-stage crystal rig.

2FO and 2nd Op going strong on 40 m.x. Using 3-stage crystal rig, with pair of 2AS's in PP in final.

2FD, using SSS, sez fine for Qrm, but takes a devil of a time to get through the band, and loses lot DX thereby.

2FT again active on 5 m.x., and intends to try a directive beam down there.

2PH gets out well on 40, but Ray's Qri is a mystery; alternates between T1 Xtl and T9 Xtl. Which gets out best, Ray?

2AP, of Oatley, works more than his share of DX with pair of tens in PP in final. Heard him working a CM7 like a local the other night.

2PS, Perce, working DX on 40 with very nice T9 sig.; also tries his hand at fone with FB results. How come you missed X1BT the other night? OM, or isn't that DX?

2HR, newcomer to the district, but very energetic. Fairly hefty key clicks here and Qri would be better with better filter, but has a nice 8st and improving rapidly.

2MQ.—Rumour hath it that "Bill" is about to take unto himself a YF and settle down in the western suburbs. Let us hope that SSS will help solve your Qrm problem, Bill.

2GR.—Bitten with the bug after several months' Qrt. Been trying out several directional 20 m.x. antennas, and, after a dull start, encouraged by a R6 report from Germany.

2PY.—Better known to all Hams as VK6PK, one of our star DX Hams, now living in Sydney—Qra Mosman—and hopes to be on the air at new location very soon.

2PK.—Still on night work, but finds time to sandwich some short Qso's in on 40 now and again.

2MY.—Been Qri rebuilding receiver. On first try-out only station on 20, 40 and 80 last Sunday was 2ME. Don't talk about reversed tickler coils.

2IO reports getting out a bit better, but DX still on the slow side.

2RY dabbling in High Fidelity amplifiers, and reports FB results with a pair of 45's in PP in final.

2DW interested in 5 m.x. work, and occasionally works duplex fone on 40 and 5 m.m.

2MW.—Another m.x. send, but, owing to too much work, does not find much time for Hamdom.

2ZH reported to be back in Sydney from "B" Class Station 2MO. Expect his sig. will help swell the Qrm out here very soon.

2JT.—Pounding out a hefty sig. on 20 and getting plenty of DX. Let us hope this Qra will be permanent OM.

2BX.—Another DX hound on 20 m.x., and also one of our best 5-metre Hams. How did that hike go, Bert?

Phone Section Notes

By I. MORGAN (3DH).

The usual meeting of the above section took place on Tuesday, 25th June, and was well attended.

The business of the evening included the election of office-bearers for the ensuing 12 months, which are as follows:—Chairman, Mr. G. F. Thompson (3TH). (When he has to leave us to follow his business to the country, Mr. H. L. Doyle (3CR) will take the chair.) Secretary, Mr. I. Morgan (3DH); Assistant Secretary, Mr. W. F. Slevens (3CB). The Allocations Committee: Mr. J. C. Kerley (Chairman), Mr. B. Joubert, Mr. G. Lahiff and Mr. Gotts.

As the meeting progressed, and very early in the evening before anyone expected it, the Allocations Committee surprised us by producing their results—credit for this "superservice" going to, firstly, Mr. Kerley for his idea of getting the other members to post to him the work for the month prior to the meeting night, and also, secondly, to the members of the committee for their co-operation.

In the general business of the meeting a discussion took place on the subject of "How we could best operate allocations in accordance with the order of merit." Finally a motion was put and passed that all stations shall be allocated the frequency and session they preferred according to their position on the list.

On 18th August, the New Zealand D.X. club are staging a special competition, in which we are asked to co-operate; on this occasion from 10.30 p.m., August 18, to 12.30 a.m., Monday, August 19-28. Town and country stations will be transmitting. Mr. G. F. Thompson (3TH) has been appointed sole judge, and the New Zealand D.X. club members will all send their reports on our transmissions to 3TH.

Now, our job in this competition, in addition to furnishing the necessary transmissions, of course, is to write up an accurate log of the complete transmission during the period of the competition. On the top of the log sheets, operators must state the actual power input to the stage feeding the antenna. These log sheets to be sent to 3TH, together with a sufficient number of QSL cards to cover the reports which the operator believes will be received on that particular station's transmission. As 3TH suggested, this will give some of our members an opportunity to use their imaginations.

Further details as they transpire will be broadcast either through "Amateur Radio" or over the air.

Key Section Notes

By C. WOODWARD (VK3YO).

At the July meeting of the Section Mr. Campbell (VK3MR) was elected chairman, and VK3YO Hon. Secretary for the coming year.

Cedric (VK3RX) was heard to mutter something about a Coburg conspiracy, but 3OC managed to keep him in hand.

The retiring chairman, Mr. Cook (VK3OX), was warmly thanked for his services during the past year.

VK3DF, late of Powelltown, was welcomed at the meeting, and it is understood that he is now stationed in the city and will be operating as soon as he can get his gear together.

Mr. Manning gave an interesting account of his trip to Sydney and the "bush." VK2 seems to get some strong signals on 14 m.c., as, according to VK3XJ, a certain W. station was given an R6 report on one tube, whilst in VK3 he was recorded as R4 on a S.S. super.

Conditions on 7 m.c. are rather slow in the evenings at present, and the frantic activity of March and April is conspicuous by its absence.

However, VK3RX managed to work his first VE after seven years. Perhaps there is something in these 50T tubes after all.

VK3OX is at it again! He is now building another Tritet exciter unit.

VK3LQ has been married, and such is the attraction of Cedric's 50T that he is shifting over near the "ex-Mayor," as also are VK3WP, VK3QJ, VK3LG and VK3RZ.

One of the country brethren, VK3TL, is reported as having 56 switches in his shack. The burning question is, "Which is Switch."

VK3LX now has a 3-stage rig, with a TBO 4-10 as a PA, and has been getting

out very well. Another of the 7 m.c. operators has departed to 56 m.c., being none other than VK3DD.

A newcomer at the last meeting was VK3CT, who has been licensed for about two years, but has been unable to get going until lately, and now hopes to be a "regular" of the Key Section.

Anyone who can obtain the services of a "Checker-upper" for the membership drive is invited to get in touch with the new chairman (WK3MR).

VK3YP was mistaken for an 80-metre fone man the other night! He is gradually recovering from the shock.

"Patto" advised having built a new 4-stage rig, using the 900 series of tubes, and is certainly making good use of them.

AN INTERVIEW WITH A MASTER OF THE ART.

By "YO-YO."

After an extensive search through the highways and byways of a certain suburb, we at last ran him to earth. "Who?" you say. Why, the famous Monarch of Frequency Control, VK3WG.

We found him in another "Ham's" shack testing one of his "phase inverter chokes" on a 56 m.c. transmitter.

"Oh, yes," he said, "I'll be through here in about an hour, so you can come and look inside my castle for a few minutes then."

We cheerfully agreed and sat by the fire until he was ready. At last he signed to us to follow him, and we were quickly on our way.

At the first sight of the operating room we were struck by the neat and orderly appearance of everything on view, even some photographs on the desk being fitted on glass plates.

"Well," said W.G., "I suppose you would like to see the transmitter in action," whereupon he switched on a few rectifiers, filaments, etc., and then, reaching under the desk by the receiver, he pulled a cord which was dangling near by. Immediately there was a terrible staticky sound from the broadcast receiver, a big bluish flash in the corner, and the Mercury Arc Rectifier was in action.

Being assured that everything was all right, we crawled out from under a nearby bench, where we had dived at the first sound, and the Crystal King went on with his demonstrations.

"I should have warned you about that," he laughed; "it does give you a scare the first time you see it."

"Looks like the bagpipes," commented one of the crowd. "Is it a Scottish bel-loom?"

Plainly visible through the glass frame, we could see the transmitter, consisting of an E448N C.O., a 210 buffer and a 203A in the frame looked as if it had been measured in thousandths of inches before it was deemed to be correct.

Turning our attention to the receiver, we found a T.R.F. battery receiver, which had been built when the station was sub-P.A. Characteristic of the man, every lead feet to tremendous QRM from electric trams, etc., and, as it still worked efficiently, had not been changed.

The P.M.G. licence number is worthy of note, being 178, giving an idea as to the time that the station has been in opera-

tion.

"Do you use fone at all?" we asked.

"Very seldom," replied W.G., "but I have telefunken installed just in case I need it; but I am not often on the air now, owing to my Institute work."

After inspecting a wonderful array of frequency measuring apparatus and seeing the work he was doing, we wondered how he had found the time to be one of the chief builders of 8WI. We could see that W.G. had justly earned the title of "The man who was too busy putting others on the air," and anyone who QSO's him may have to consider it a rare contact.

All the power supply transformers are home made, and the cores are of ample proportions, making the power rack look like a miniature sub-station.

At this stage Mrs. W.G. came on the scene and rang the curfew, so after another lingering look at certain meters we were escorted to supper, and then dashed to the corner in time to catch the last tram to town.

VK3WG is owned and operated by Mr. W. Gronow, and the address is 2 Anthony-street, Malverna.

NORTH-WESTERN NOTES.

By UK3CE.

Conditions on all bands have not been all they might have been over the past month.

The W's, K's, etc., who were coming in well on 20 during the afternoons, have become only just audible, as with the exception of a few W's, DX has been absent from 40. While on 80, only about two nights per week have been good, and the usual gang certainly make use of those times for their rag chews.

VK3KR now has his new trianrie, but suffers from hum from his unshielded spch. amp.; also keeps weekly skeds with W4UP on 20 m.x. Ken. has been promising himself a trip to Shepparton for about two years. It was the irony of fate that on making the trip he should find 3DW QSO the "du."

3OR is installing a new super spch. amp., being built by Bruce Mann, of spch. amp. fame, so we can look for some super fone from Murray very soon.

3IV is inactive for the time, his H.T. "B" batteries having ceased to bat.

3KI had a hurried trip to VIM.

3CD at last has fb fone on his 80 m.x. rig.

3TL working ZL's with 80 m.x. fone, still putting out good fone with his QRP f.b. treble.

3WN had his meter reconditioned. Is rig.

3HN has MOPA with telefunken modulator. His sigs. are greatly improved.

3NN has his new 250 modulator. His rig is now working nicely. Herb. is installing a new-type heating device in his shack.

3WE has built himself a super RX heard with very nice fone, on 80 m.x. 3DW having a few overs with O.M. "du. Hone 100 per cent. again now, Doug.

3HL keeping very quiet. Guess Alan is nutting out some new bait for DX.

3ZK still working normal skeds and ZL's between times.

3EP heard sending slow Morse practice. Still waiting on AC.

3CE rebuilt C.O.; has killed a bad bug in doing so. Had QSO with 2UJ, who

uses a Ford T. mag-dyno. for his primary power supply. Drives it with 2½ h.p. engine.

WESTERN DISTRICT NOTES.

By VK3OW/3HG.

With the falling off of conditions on the 40 m.x. band, the 80 m.x. band has been very active of late, especially as conditions there have been good.

Probably the loudest signal on that band at present is 3EG, who comes in at R max., both fone and C.W.

Conditions on 20 m.x. seem to have fallen off, and 3PG reports it hard to QSO the Yanks, and when Norm. can't raise them things are sure bad!

Both 3HG and 3OW active, mainly on 80 m.x. fone; and both contemplating new receivers.

O. the Camperdown gang, 3GC, is installing a crystal filter and extra I.F. in his super receiver.

3CQ makes up for lost time on the air during the week by pounding brass from 10 a.m. until midnight on Sundays.

3NG has purchased an Austin 10 saloon car, so we can expect to hear even less from him in the future.

3WW heard on 7 m.c. with f.b. T9 sig. Glad to note the improvement, O.M.

3DX still sticks to 250 metres. His transmission now is very good indeed.

3HL seems to be the only one of the Hutchings family active, and even he is only heard on Sunday morning. Guess Alan is saving up for October!

All the Ballarat gang are QRT, but believe 3AL intends coming on again soon, after being busy rebuilding "B" Class (3BA).

3OS using his two winding generator as a dynamotor for power supply, putting 18 volts on low-tension end.

3JE reports getting a number of reports on his fone lately, and as Bill has been off the air for some months there is evidently a pirate operating somewhere round the city.

3GZ, Geelong, again active with crystal on 80 m.x., and is very keen on R.A.A.F. W.R. work.

Queensland Division

The monthly meeting of the Wireless Institute (Queensland Division) was held at headquarters, Helndorff House, Queen-street, Brisbane, on Friday, 5th July, before one of the largest attendances seen for many months.

After the general business was dealt with, a talk was delivered by Mr. T. Armstrong, Radio Inspector, the subject being "Present - day Experimental Activities." This was enjoyed immensely, and all those present look forward to Mr. Armstrong's next visit.

The student classes, under Mr. P. Kelly, are being well attended, and those desirous of joining up are advised to get in touch with the Secretary, Box 1524V., G.P.O., Brisbane.

Country members are reminded that VK4WI, the official station of W.I.A. (Queensland Division), is on the air on the 3.5 m.c. every Sunday night between 7 and 9 p.m.

4CR reports that conditions at his QRA are nothing startling, although Yanks seem to be easily landed on 40 m.x. with his low-power Hartley.

4JB has again become a member of the W.I.A., and is looking forward to meeting the gang at headquarters. Bet some good yards will be exchanged.

4UU has been preparing his rig in readiness for the VK4-ZL test. Says he expects a big score, and hopes to be at the top when the count is completed.

4US has just about completed his new rig, which comprises 2A5 Tritet, 48 doubler, parallel 48's buffer, and push pull 800's final. Will be using grid modulation on 20 m.x.

4JF states that he has just received a report of R5 from Russia. Although not yet able to contact with them, the Hartley is evidently putting out a fairly solid signal.

4XW, George Harmer, hopes to be on shortly, using a 59 Tritet. Is also building a single-signal super. Expects to be mostly on 10 and 20 m.x.

4GK has been having a good deal of trouble lately. Had the misfortune to lose rectifier, filter condensers, and I believe the DET. I has shown signs of giving up also. Says it is going to cost a few bob to replace them.

4UW heard with a nice signal and plenty of punch.

4WT reports that he has nearly completed his new rig. Been having trouble with link coupling and 46's.

4GG is putting out some good fone on 80 m.x., and was heard in VIB recently at R7.

4AW just completed a fine portable 59 m.c. receiver. Says it is the goods. Wait until the boys get their next report, says Arthur.

4MC now on the air with a f.b. signal; this time from his new rig. 59 Tritet, 48 buffer and pair 46's in parallel. It is some outfit.

Conditions in North-West Queensland are improving, though on 40 m.x. daylight reception is stronger than night reception. VJI, the station of the A.I.M. at Cloncurry, is to go on 600 metres for work with the Q.A.N.T.A.S. planes. A power of 500 watts ICW will be used.

4LK is now using a 2-stage C.C. outfit, but complains that his note is too pure. He is still using the alternator, wound from a Dodge car generator, the motive power being from the 32v. lighting system.

4ET, at Townsville, is heard consistently, as usual, though radio had a spell when the old man "du gripped him."

4KA still very QSA at Cloncurry with a good, though rough note.

4RP, of Cairns, is heard at maximum. In fact, the Cairns gang are making their presence felt on 40 m.x.

4FN puts out very good quality phone. A rough note, signing 4JW, told us that old JW was on the air again. He is still using Ford coil supply.

The success of which, so we are told, is due to a special condenser.

4ML, of Richmond, is building a new MOPA, but is heard with a self-excited rig at present.

4WH is heard seldom, and rumour has it that 4EN amuses the BCL's at "The Reach."

4RS, at Proserpine, has not been heard lately. 4GA, at Quamby, still minus power supply—the engine won't gee.

South Australian Division

By ERIC HALLIDAY (VK5FW).
Since the new Council came into office

at the beginning of last April, the Institute has been reorganised and several very effective alterations have been made. It is hoped that the changes made will make a lot of the Hams who have previously had no interest in the Institute become active members.

STUDENTS' LECTURES.

A new series of lectures for student members have been arranged. They will extend over a period of six months, and will be delivered by Mr. A. Taylor (VK5AT).

Mr. Harry Wheeler (VK5HW), who has given several series of elementary lectures, has been reluctantly compelled to resign from the position.

At the last general meeting Mr. Lucas, on behalf of the students, suggested that a message of thanks be forwarded to Mr. Wheeler, in recognition of his efforts in so ably coaching the younger members for their tickets. Nearly a dozen sat for their tickets at the last examination in Adelaide, and it is expected that quite a few of these will be successful.

Mr. Taylor, the new lecturer, has an extensive knowledge of radio, and there is no doubt that he will maintain the high standard set by Mr. Wheeler.

Several practical demonstrations will be given during the course of the lectures. A committee, which consists of 5MD, 5VW, 5KL and 5WD, has been formed to take charge of these demonstrations. A complete transmitter and receiver have already been built, and will be available for the students to use.

The lectures will begin on Thursday, 15th August, and will be held every Thursday night. On the week of the general meeting, however, the lecture will be omitted, and a code class will be given before the general meeting.

A new Students' Section of the Institute will be formed. This will be run on the same lines as the Transmitters' Section.

New Meeting Night.—Commencing in September, a new meeting night will be inaugurated. This will take the form of a general business night, and will be devoted to general discussions on all matters relating to Ham radio. Up to the present these discussions have taken place on lecture nights. Lately, however, the discussions have been taking far too much time, with the result that many interesting lectures have had to be seriously curtailed.

As soon as the new night is introduced, discussions on lecture nights will not be permitted.

Traffic Contest.—A traffic and message handling contest has been arranged by the Council to promote the art of traffic handling among all licensed VK5 Hams.

The contest hours are between 1,000 and 1,200 (Adelaide time) on Sunday, August 4, 11, 18 and 25, on the 7,000 to 7,300 Kc band. One of the rules of the contest is that at all times the speed of operation must not exceed 15 words per minute. The rule was introduced as a form of handicapping, so that the many new Hams on the air in VK5 will be on an equal footing with the older and more experienced operators.

Several trophies have been donated as prizes, and indications are that there will be a very large percentage of the stations in VK5 in the contest.

A contest for the students has also been

arranged in connection with the traffic contest. A trophy has also been presented as the prize in this Section.

200-Metre Band.—A new committee has been formed to take charge of the 200-metre band. Those on the committee are:—Marshall Hilder, Gordon Ragless (5GR), and Al. Reimann (5JO). Several frequencies on this band have been surrendered by stations who have not been on, and these will be allotted to other stations in due course.

QSL Bureau.—The Institute's QSL Bureau will shortly be reorganised. A filing cabinet is to be put in the club rooms, and members will be able to collect cards from the State QSL officer, 5RX, at all meeting nights. The change has been made so that the Institute will be able to keep a check on the Hams who are not at present members.

In future, all QSL cards should be addressed to the Institute's box number (284D), G.P.O., Adelaide.

Social Nights.—Many of the older Hams will welcome the announcement that the club rooms will once again be open on Friday nights. They will remember the happy informal card parties and table tennis matches that used to be held. I, for one, will be glad to see all the old gang along on Friday nights. So roll up, chaps!

This Division extends its deepest sympathy to the Grand Old Man of Radio in VK7 ("Pop") Medhurst, VK7AH, in his recent bereavement. Ford Wells, 5WP and 5GR, VK5's representatives at the last Institute Convention, send special messages of sympathy.

West Australian Division

By VK6LJ.

(Per Radio 3ML.)

Activity in this district has increased, and a good turn up was experienced at our Annual General Meeting, held in June. The new officers for 1935-6 are as follows:—Patron, Mr. Hayman; President, Mr. Brown (VK6CB); Vice-Presidents, VK6BB and VK6FG; Secretary, Mr. Quinn (VK6CF); Assistant Secretary, Mr. Rann (VK6KO); Treasurer, Mr. Park (VK6RR). Members of the Council are: 6BB, 6BN, 6RL, 6PK, 6FY, 6GM, 6MW, 6CX. Traffic Manager, Mr. Mead (VK6LJ); QSL Bureau and Bulletin Editor, Mr. Mead (6LJ); Technical Director, Mr. Moss (VK6GM).

There was so much business that the meeting had to be adjourned for another week.

A field day was held in King's Park on 14th July, and, considering the cruel weather, quite a good herd gathered in our city. Owing to the Secretary taking the required maps, in case he got lost in the park, the start was somewhat delayed. The July country participant, 6FT, was successful in winning, and has the first prize, a grand silver cup donated by the President and presented by our Patron, Mr. Hayman. VK6GM won 5/- worth of beer. As if he has not enough as it is! He came second. VK6MW won a 50-tin of fags, so Bill has started to smoke now. VK6LJ tried to knock a tree down whilst backing out of the rain. 6MW was jealous of 6GM and attempted to tear George's wir off—I mean his car's wig! 6BB and 6BN arrived with a car (?) full

of gear and a frame aerial which was built for Noah. 6BB got on all right, but 6BN's batteries ran down. 6KO came along, but couldn't participate, so he had to dig up 6CX for the maps. 6CX was the fixed station in the park, and the mobile station was 6CB. The idea was to plot the position of the fixed and mobile stations at various times of transmissions. The social outing was to be held at Glen Forrest, but was postponed on account of the wonderful weather of the VK6 winter. Another field day has been arranged by the Social Committee on the suggestion of VK6SA, to take place on 18th August, on the 3.5 band. The stations participating are to be entirely mobile, and are to be equipped with a receiver and transmitter. They are to be independent of power supply mains, and must be operated at least one mile away from the fixed QRA. The aerial and transmitter must be installed on the day of the test and not before. This obviates anyone getting any advantage over another by not having to get gear going on the day of the test. Each party is free to go where it pleases as regards to locality.

Points to be allotted to portable stations are as follows:—Working another portable, 2 points; contacting a metropolitan station, 1 point; contacting a country station, 2 points; contacting a station outside the State, 5 points.

Metropolitan stations are to be considered as those under 20 miles from Perth, and country stations those over 20 miles. Stations are to submit logs showing times of QSO, and a report on signals both ways to prove contact. The time limit will be between 10 a.m. and 5 p.m. for score counting.

It is intended to conduct a fone test from a moving car on 3.5 m.c. in the near future for the purpose of publicity. The idea is to cruise around the metropolitan area, describing the route taken and places visited, etc., and a prize is to be given for the best reception report. If this proves successful, another test will be run off on 7 m.c. for comparison.

VK6MN is our receiver expert, and has got a nice receiver perking on 5 and 10 without any um. VK6MW is the VK6 speed king; 6BN and 6JS are keeping up the AOPC classes; 6RL, a man of leisure, and may come on the air again. 6SA installing 56 m.c. gear again.

Tasmanian Division

The usual monthly meeting was conducted at the club room on Tuesday evening, 2nd July.

General business occupied an hour and a half, and was followed by a talk on "Measuring Instruments" by our newly-elected President, W. T. Hooker (7JH). D.C. types only were considered, and their variety and application explained. It is hoped to hear from him again at a later date, when he has promised to go into the types used in A.C. measurements. This was 7JH's first attempt at a lecture in public, and he was somewhat affected by the usual nervousness, but finished strongly and was voted a lively round of applause for the effort. Other members are asked to brush up their best subject and let us hear about it.

The offices of the Council have been finalised now, and the complete list is as follows:—Messrs. W. T. Hooker (7JH), President; H. M. Moorhouse, Hon. Secretary; A. E. Allen (7PA), Treasurer; J. Batchler (7JB), Traffic and QSL Manager; F. W. Medhurst (7AH), C. F. Johnson (7AR) and C. Parish (7CP).

It was in the hands of the Council to consider the prospects of an alteration to membership fees, but it has been decided to continue as at present for this year, and consider the matter, if necessary, nearer the end of the year.

Another move is inevitable, too. The landlord is demanding more rental for the present quarters, so we are getting out. It is very disheartening to members who go to a lot of trouble to make the room convenient only to find that more rent is asked for.

The new room, though somewhat smaller than the present one, will suffice for some time to come, and the erection of an aerial should be easier than before. The room is located on the second floor over Connor's boot shop in Elisabeth-street, opposite Goodwill Stores.

A transmitter has been built up in the form of a P.P.—T.P. T.G. rig for the present—using 465, and will be put on the air as soon as is convenient after moving. The receiver has been reconditioned, and, between the two, 7WI should be heard and worked soon. Forty metres will be the band used for a start, it being the most used.

An elementary class for members is to start immediately, with J. Brown (7BJ) as technical instructor, N. Gillham taking the code section. This is not intended as opposed to the Technical School class, at present in operation, but many of the student members find that the technical class does not work in with their trade course at the same school, and they therefore cannot do both. This Institute class will give them an opportunity; also it is run gratis.

The membership list still increases. Several new ones were enrolled at the July meeting, including VK7's first VL member, Miss Joy Crowder, who is at present busy with the Technical School AOPC class, and hopes to take the October AOPC examination. We wish her good luck and extend a hearty welcome to her. Look out, you enthusiastic youths, or the VL's will be showing you the way.

On the Bands.—The 20-metre band seems to be fair here at present up till about 3.30 to 4 p.m., and 7KV, 7BJ, and recently 7JH, are to be heard working fairly regularly.

The 40-metre band is fair some evenings, with a few W's and K's to be heard, though QRN is generally rather high level. There promises to be some UHF work here soon, too. 7BJ is likely to start the ball rolling any time, so 7NC will possibly have cause to resurrect his outfit. Others then will possibly follow.

The 200-metre gang were delighted to be allowed to operate at their old times, after being advised that 7ZL would be extending its operating hours and they would have to remain silent for the time in question; so the late evening is the only time affected. This band is operated pretty regularly.

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R.A.A.F. Wireless Reserve Notes

SECOND DISTRICT NOTES. R.A.A.F.W.R. MEMBERS VISIT RICHMOND.

By 2A1.

For two members of the New South Wales end of the R.A.A.F.W.R., Sunday, 30th June, was an eventful day, giving promise of a new era in that body's existence in this State.

It happened this way: About 2 p.m. I was sitting by a nice cosy fire when a rattle on the front door brought me up to see who the dickens was game to come out on such an unpleasant day.

No other than the D.C. stood dripping at the door, while clouds of smoke and steam in the offing indicated the presence of the old motor bike on which he had arrived.

Would I come to Richmond? Would I? Like fun! So in the good R.A.A.F. way I cursed him and agreed.

And so we piled up in the machine, and with two snorts and a grunt the old mechanised lawn mower oscillated away.

The rain drizzled all the time in its cheerful way, and we made great headway when the wind wasn't blowing too hard.

Through the misty rain we had occasional glimpses of scared fowls running away and an occasional town traffic cop too scared to pull us up for traffic obstruction. So at last the observer spotted the 'drome on the starboard bow, and the pilot brought her down a few thousand while we sideslipped into the main drive and stopped. (That last is no trouble to the Harley.)

Amid signs of great building activity we found the orderly room and, together with it, Squadron-Leader Swinburne, the object of our visit.

You see, it's like this. Squadron-Leader Swinburne is vitally interested in our efforts, and on his arrival at Richmond 'phoned the D.C., asking him to come to Richmond to discuss reserve matters with a view to getting more and better co-operation between Permanent and Reserve men, which, I think you will admit, is a big step forward.

Squadron-Leader Swinburne turned out to be Class A in all respects, and lent a very attentive ear to our end of the business. He went one better, however, by plainly showing how anxious he is to have us doing useful work, and brought in Sergeant Endean to contribute to the discussion. The result was briefly as follows:—

1. The Air Board is keenly interested in us.
2. Reserve members are always welcome at Richmond to look the place over and meet Sergeant Endean and his signalmen.
3. Richmond would like to communicate directly with us at times when on watch for instructional purposes.
4. Further, they are willing to have us all up there from time to time for the day to attend lectures, etc., and

get a bit of traffic work on the official station.

5. Last, but not the least, they want to know us all personally, for they feel that we can and will do useful work for the service when called upon.

As I said before, it was a red letter day for us, and is the forerunner of many more trips for reservists in this State.

We saw the various fighting machines and radio equipment, mobile and fixed, and we can promise a real good and useful day for those of us who are fortunate enough to be living close enough to the 'drome to pay a visit.

I am sure most of us will get a kick out of pounding the brass when 500 watts are behind it, and, believe me, that's what we'll all have a go at in the near future.

Forty miles in the rain somewhat spoilt our pristine beauty by the time we got there, but it didn't spoil our welcome one bit.

We left the 'drome at 5.15 p.m. in more rain; we sampled some "Thames" brand fog; then more rain for 40 miles. I have since discovered that the fog we encountered was steam from the bike, as we ran through the rain on the way up.

Anyway, the D.C. and my humble self are firmly convinced that, should we survive the inevitable pneumonia, you will see the dawn of a new era in the life of the R.A.A.F. Wireless Reserve here, and we will do our darndest to make it so, now we have the backing of the men who count.

Lastly, we would like to express our appreciation to Squadron-Leader Swinburne and Sergeant Endean for a very pleasant afternoon.

THIRD DISTRICT NOTES. 32I—VK3UK.

This month has seen the beginning of the new financial year, and we have started July with a new enthusiasm and a desire to outdo, during 1935-6, even the best of our work during 1934-5. We have taken stock of ourselves, of our Sections and our District, have forwarded a bunch of suggestions to headquarters, and are now looking forward to the best year that the Wireless Reserve has ever known. There have been a few changes in the personnel of the Sections, but the new men are settling down quickly with the help of the old hands. Our new semi-permanent Section leaders took over on 1st July, and we wish 3A5, 3B3, 3C3 and 3D4 the very best of luck. They are working hard to get their Sections an early lead in the Crack Section Trophy Contest. After a very close fight, VMC3 won the Crack Section Contest for 1934-5 by the narrow margin of .32 per cent. The issue was in doubt up to the last two schedules. Our congratulations to VMC3 for their win, and to VMC4 for pushing them so hard. We have to welcome VK3BS, VK3VW, VK3XQ and VK3WM as new members, and hope that

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they have as many happy times and associations whilst in VMC as we have all had.

3A1 had bad luck at first, both with his transmitter and receiver, but now he has every difficulty straightened out and is putting a pure T9 R8 signal into Melbourne consistently.

3A4 has not been able to resume active work yet owing to the QRM from his job with 3BA.

3A6, VMC1's newest member, is finding difficulty in handling Reserve traffic while 3C1 is on the job. They are both in the same town, and matters are sure to be further complicated when 3DR, who also is in Shepparton, starts up next week. It seems a case for S.S. receivers, but a little experiment should straighten matters out satisfactorily. Shepparton holds the unique distinction of being the only country town in the Commonwealth with three active Reserve members. There will be some keen rivalry in Victoria, I surmise, as Ballarat, Bendigo, Geelong and Warrnambool each have more than three Hams in them. Are you going to let Shepparton have it all their own way?

3B1 had his mast blown down, and, with his QRP rig, has found it impossible to contact his Section for the time being.

3B4 has just put in new receiver batteries. These misfortunes always go in threes, so they say. Arthur's "three" became evidenced, as he had no sooner replaced these batteries than he found it necessary to put in a new accumulator as well as new transmitter batteries.

3C1 is having a bad bout of 'flu. Last Sunday he got out of bed in order to put through a message excusing himself from schedule. His action typifies the spirit which won the Track Section Trophy for VMC3.

3C2 has found it necessary to resign from VMC3 for the time being through pressure of work. Ken is one of the old original members, so we are hoping that it won't be long before he is back in an active Section again.

3C3 is very busy servicing and building—P.A. work, etc. Coupled with the fact that he is a very energetic Section leader, we wonder when he has time to do any work on his property.

3E1 has been forced into inactivity through a job which has called him away from Melbourne for some weeks.

3E3 is taking a keen interest in 56 m.c. work. Efforts are being made by IAI and 3E1 to contact him on this band.

3A5 has been down with a bout of 'flu, but is on the mend now.

The day is not very far distant, we feel sure, when all Reserve work in VMC will be done on U.H.F. bands. 3E1 has plans under weigh to form a Metropolitan U.H.F. Section, in which all traffic will be handled by phone. With beam arrays and some very enthralling research, there is no reason in the world why we cannot visualize the day when VMC will keep all schedules "below 5." There is everything in favour of such a move. Gear is cheap, extremely portable; the experiment necessary to achieve success will be intensely interesting, to say the least, and finally we will be away from the bedlam of the QRM on 3.5 m.c.

SIXTH DISTRICT NOTES.

By 6Z1-VK6MN.

6A3 and 6A5 are shifting to other quarters, and consequently temporarily inactive. 6A3 has shown considerable improvement lately, owing to winter conditions making constant watch operating possible. 6Z2 has been away in the bush again. 6A2 is as regular as clock work as Section leader. Call signs will be along any day for new members at Geraldton, Kalgoorlie and Harvey.

(Continued from page 15)

TEN METRE NOTES.

(For inclusion in 3JJ's Section.)

June on 28 megacycles in N.S.W. was very quiet, even 2EP only working one American station, W4MR, and also having a QSO with J21S. In Sydney 2LZ worked 6SA one Sunday for a few moments, and also had a very short contact with 2EP. This contact was a rather unusual one. Points in N.S.W. for June: 2EP, 151; 2LZ, 21.

July has shown much more improvement, however. 4EI appeared on 10 metres, and had a QSO with both 2HY and 2LZ on July 14th. 2LZ had previously worked W6VQ on July 7th.

2EP continues to amass points at an amazing rate for the R.S.G.B. contest and has secured 840 points between July 7th and 15th. The stations worked include X1AY and W's 6VQ, 9GBJ, 6AA, 6BNF, 5QL, 6RH, 9FM, 9NY, 4AJY, 9KEP. He finds a tuned beam antenna far superior for both reception and transmission.

(Continued from page 14)

stations is the greatest. If less than three stations enter in any State the sum of the scores will represent their State's total.

No. 13.—The decision of the Federal Headquarters Executive of the W.I.A. will be final and binding in all matters.

Department of Defence

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